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EXAMINER

LEUNG, CHRISTINA Y

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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2633

8

DATE MAILED: 05/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/332,046

Applicant(s)

GERSTEL ET AL.

Examiner

Christina Y. Leung

Art Unit

2633

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 June 1999 and 17 September 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) 12-29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☒ Claim(s) 1 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 June 1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4, 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Claims 12-29 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to nonelected inventions, there being no allowable generic or linking claim.

Election was made **without** traverse in Paper No. 7.

Claim Objections

2. Claim 1 is objected to because of the following informalities:

Claim 1 recites "monitoring a quality of the test pattern..." in lines 15-16 of the claim.

Examiner notes that the term "test pattern" should be changed to "test signal" so that it is consistent with the terminology used in the rest of the claim. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 2, 7, 8, and 11 are rejected under 35 U.S.C. 102(e) as being anticipated by Khaleghi (US 6,008,916 A).

Regarding claim 1, Khaleghi discloses a combination in a wavelength division multiplexed optical system (Figures 1B and 2B) comprising:

a first optical node 13 including a transponder having a test signal generator 34 for generating a test signal,

a second optical node 24 including a monitoring circuit (such as BER measuring unit 33) for monitoring a received test signal;

a light path interconnecting the first and second optical nodes (including fibers 10'-50');
wherein the light path is tested by the monitoring circuit of the transponder of the second optical node by monitoring a quality of the test signal generated by the test signal generator of the transponder of the first optical node (column 6, lines 53-67; column 7, lines 1-14).

Although Khaleghi shows only transmitting elements at a first node and receiving elements at a second node in the figures, Khaleghi further discloses that the system may be bidirectional, including receiving elements (i.e., a monitoring circuit for monitoring a received test signal) at the first node and transmitting elements (i.e. a transponder having a test signal generator for generating a test signal) at the second node (column 5, lines 35-43).

Regarding claim 2, Khaleghi discloses that the quality monitored is a bit error rate (column 4, lines 50-65).

Regarding claim 7, Khaleghi discloses that the light path may be tested prior to connecting client equipment to the first and second optical nodes. Figure 2B shows how a test signal S_{test} is sent from the first node to the second node while the normal information signal S_{in} from client equipment is disconnected (column 6, lines 53-67).

Regarding claim 8, Khaleghi discloses that the test signal generated by the test signal generator of the transponder of the first optical node includes predetermined errors (i.e., the

errors which are noted and measured at the second node), and the monitoring circuit 33 of the transponder of the second optical node monitors the received test signal.

Regarding claim 11, as similarly discussed above with regard to claim 1, Khaleghi discloses a wavelength division multiplexed optical system (Figures 1B and 2B) comprising:

an optical node 13 including a transponder having a test signal generator 34 for generating a test signal;

a client 24 equipment including a monitoring circuit 33 for monitoring a received test signal; and

an optical interface (fibers 10'-50') connecting the optical node and the client equipment, wherein the optical interface is tested by monitoring a quality of the test signal generated by the test signal generator of the optical node and received by the monitoring circuit of the client equipment (column 6, lines 53-67; column 7, lines 1-14).

5. Claims 1, 3-6, and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Parruck (US 5,265,096 A).

Regarding claim 1, Parruck discloses a combination in a wavelength division multiplexed optical system (Figure 4) comprising:

a first optical node 10b including a transponder having a test signal generator 50 for generating a test signal, and a monitoring circuit (receiver circuitry 20 includes failure detection circuitry; column 5, lines 1-26) for monitoring a received test signal.

Parruck further discloses that the system includes additional nodes, such as a second optical node, each similarly including a transponder and a monitoring circuit as shown in Figure 4 (Figure 4 shows other nodes 10a, 10c, and 10d, for example). Parruck discloses a light path

Art Unit: 2633

interconnecting the first and second optical nodes, wherein the light path is tested by the monitoring circuit of the transponder of the second optical node by monitoring a quality of the test pattern generated by the test signal generator of the transponder of the first optical node (column 5, lines 1-26).

Regarding claims 3 and 4, Parruck discloses that the test signal may be a valid client signal comprising a valid SONET frame (column 3, lines 6-27).

Regarding claims 5 and 6, Parruck discloses that the test signal may be a valid maintenance signal comprising a SONET alarm indication signal, also known as "AIS" (column 4, lines 51-58).

6. Claim 10 is rejected under 35 U.S.C. 102(b) as being anticipated by Yajima et al. (US 5,367,395 A).

Regarding claim 10, Yajima et al. disclose an optical line terminal (Figures 1 and 3) comprising:

a transponder having at least a transmitter 20 and a receiver 22, with a test signal generator (byte generator 42) connected to the transmitter 20 for generating a test signal for the transmitter to transmit at an output thereof, and a monitoring circuit (including overhead byte detector 44 and comparator 50, which compares a received test signal with an expected value) connected to the receiver for monitoring a received test signal at an input of the receiver; and

switch means 24 for connecting the output of the transmitter to the input of the receiver to test a quality of the test signal transmitted by the transmitter and received by the receiver.

Figures 1 and 3 shows how the switch may be used to connect the output of the byte generator to

Art Unit: 2633

either the monitor on the opposite side or the monitor on the same side to test different areas of the system (column 2, lines 43-56; column 3, lines 6-50).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Khaleghi.

Regarding claim 9, Khaleghi discloses a system as discussed above with regard to claim

1. Khaleghi further discloses that the first optical node receives information signal S_{in} from some source, which would well understood in the art as client equipment, although it is not explicitly shown in Figure 2B. As discussed above with regard to claim 1, Khaleghi also discloses that the system may be bidirectional and include receiving equipment at the first optical node (column 5, lines 35-43). Khaleghi does not explicitly disclose that client equipment at the first optical node may receive signals, but it is well known in the art that client equipment may be connected to and receive signals from an optical node. It would have been obvious to a person of ordinary skill in the art to specifically include client equipment in the system disclosed by Khaleghi for transmitting the input information signal already shown in Figure 2B and also for receiving information sent from another node in order to allow the system to perform communications between users.

Khaleghi discloses that the first optical node may block transmitting signals from the client when the node is transmitting a test signal instead. Again, Figure 2B shows how a test

Art Unit: 2633

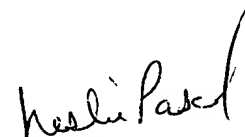
signal S_{test} is sent from the first node to the second node while the normal information signal S_{in} from client equipment is disconnected (column 6, lines 53-67). Khaleghi does not specifically disclose that the node may block receiving signals from the client equipment, but it would be well understood in the art that the test signal sent by the test signal generator would be processed by the monitoring circuits only and would not need to be received by client equipment. It would have been obvious to a person of ordinary skill in the art to also block the client equipment from receiving signals in the system disclosed by Khaleghi so that the test signals would not confuse the client equipment. Again, Khaleghi already discloses that the signals received at a node may not contain any information useful to the client equipment since the test signals may be transmitted by themselves.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christina Y. Leung whose telephone number is 703-605-1186. The examiner can normally be reached on Monday to Friday, 6:30 to 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on 703-305-4729. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4700.


LESLIE PASCAL
PRIMARY EXAMINER